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About the Institute

The Hunt Institute for Botanical Documentation, a research division of Carnegie Mellon University, specializes in the history of botany and all aspects of plant science and serves the international scientific community through research and documentation. To this end, the Institute acquires and maintains authoritative collections of books, plant images, manuscripts, portraits and data files, and provides publications and other modes of information service. The Institute meets the reference needs of botanists, biologists, historians, conservationists, librarians, bibliographers and the public at large, especially those concerned with any aspect of the North American flora.

Hunt Institute was dedicated in 1961 as the Rachel McMasters Miller Hunt Botanical Library, an international center for bibliographical research and service in the interests of botany and horticulture, as well as a center for the study of all aspects of the history of the plant sciences. By 1971 the Library's activities had so diversified that the name was changed to Hunt Institute for Botanical Documentation. Growth in collections and research projects led to the establishment of four programmatic departments: Archives, Art, Bibliography and the Library.

Ball, Carleton R.
Taxonomic botany: what and whither?
Presented at A.A.A.S meetings, Atlantic
City, N. J., Dec. 27-31. 1932.

TAXONOMIC BOTANY: WHAT AND WHITHER?

By

Carleton R. Ball

74 Botany is a worthy science. She has made tremendous contributions to human well-being in the fields of agriculture, science, industry, and art. She has helped man to interpret his past and to determine the laws of his genetic evolution. Taxonomic botany has been the foundation stone for this impressive structure. Yet she is not highly regarded by the man in the street, who ultimately finances all endeavor. And there are two counts in the indictment.

Sins of Omission

Systematic botany is the revealing study of the out-of-doors, - of the floral content of field and forest, of desert and dune and swamp.

56 It is of the joyous earth, living. Too often it has been made of the dusty cubicle, - dead. And yet, all that it needs is just a Cinderella's chance to be alive and lovely. Therein lies tragedy.

66 The world at large has taken to the out-of-doors as never before. Transportation and leisure permit. Appreciation of sunlight values and revolt against urbanization urge. Clubs for conservation, recreation, nature study, education, and health have multiplied and fared afield. But too few taxonomists have led them. Even the leaders of the plant lovers quite often are recruited from other groups. And therein lies more botanic tragedy.

And Sins of Commission Also

78 The second charge specifies the giving of aid and sanction to public enemies, such as the priority racketeer, the species splitter, the sub-sub-subform specialist, and the hybrid hijacker.

The priority racketeer, or name changer, was the first of the botanic underworld characters to develop. Under skillful propaganda priority has become a fetish, and almost a religion. Scientific names of plants are merely human ideas. If one kind of idea has priority rights, other kinds should have. If priority of one kind of name is sacred, then priority of all kinds of names should be sacred. For instance, the names of the planets in our solar system, or the names of precious stones, or of the days of the week and the months of the year. Names were given to the planets by the Chaldeans, Egyptians, Hebrews, Arabians, and Greeks. The ones we use are mostly of Roman manufacture. Have the Chaldeans or the Hebrews no priority rights? Does not the name of Venus equal Verbena in value, and Jupiter outweigh Juniperus?

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If the theory has a faulty foundation, the practice has even more of abomination. It has given rise to the cult of the professional name-changer. While others study living plants, they study dead names. Under the guise of establishing priority, these ghouls exhume the dead to shackle the living, and immortalize themselves. If one muster 100 changed plant names, he gets 100 little tombstones, each inscribed with his name. If he accomplish 1000 or 5000 changes he has built him a giant monument, engraved for all the world to see, - and hate. The 10 plagues of Egypt were temporary. This infliction is permanent, until revolution. The vicious practice reached new low levels of depravity when a two-line publication, one line containing a new combination and the second a cross reference to the old binomial, became accepted as a 'contribution to botany'. Shades of Linneus! It not only has been accepted but it has to be catalogued and cited, henceforth and forever, O damn! And honest botanists have stood, and still stand, for that, as Chicago stood for her racketeers.

175

110 The one bright spot in the gloom of change is the struggle to conserve certain old and well-known names. Some have been saved, but the botanic Saul has slain his tens of thousands. In the last work scanned Euphorbia is masquerading as Chamaesyce, with Zygophillidium, Lepadenia, Tithymalopsis, and Tithymalus thrown in for good measure. Some one was duly monumented for that. Our faithful old dogwood, Cornus, will never wag a friendly tail to the name of Svida, and Chamaepericlinum awakens no memories of the cornels. Is the taxonomic world the better off, now that Gentiana gives long-honored place to Dasystephana? Or that the sturdy thistles never know whether they are Cnicus, Carduus, or Cirsium?

All this worship of priority was instituted in the name of stability. But it never has given stability, and never will, so long as the priority racketeer is rewarded for mere change of name without scientific contribution. Thousands are shackled to the wheel for all eternity, that one long-dead saint or sinner may be canonized, and some present ^{prophet} racketeer be made immortal. If one slept and dreamed of the present status, he would awaken in mortal horror. But it is no nightmare of the dreams, it is a nightmare of reality, fostered by many, tolerated by most, deprecated by few, corrected by none. And this in the 20th Century! O Lord, how long?

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The next pest was the infinite splitter of genera and of species. The curse is still with us. The specialist receiving 100 sheets of a given genus from a credulous herbarium, who does not return 50 or even 90 sheets designated as the types of new 'species' is no true devotee of this recent and dishonorable indoor sport. The fact that those familiar with plants in the field cannot recognize these species, that the next manual of the flora of the region refuses to accept them, and that a more sane monographer reduces from one-half to five-sixths of them to synonymy, does not undo the damage wrought. The types and cotypes still exist, and their coffins must clutter our cases till the trump of doom. The names likewise exist and must be carried in synonymy by our children's children to countless generations. No. 1 May Rafinesque, who named new species of thunder and lightning, preserve us from the worse that is yet to come. 158

Still more recently has arrived the plague of the unending multiplication of ranks of plant entities. Once we had genera, species, and varieties. Now we have 10 ranks, and the end is not yet. Genus, subgenus, species, subspecies, variety, subvariety, form, subform, sub-subform, and, lastly and temporarily least, the sub-sub-subform. Of course these latter ultimates are not recognized taxonomic units, subject to all the laws of taxonomics, thermodynamics, and what-not. But, they will be soon. Just wait. It is inevitable. That's the way the taxonomic mind delights to work. And the mind at its worst is an awesome thing. This 10-rank nomenclature seems the obvious resort of those who must thresh over old straw. The broken straw must be classified into many different lengths. These are the lengths now popular. That of the micro-millimeter fragments yet to come? 174

And as if these were not enough, there recently has come upon us a new plague, the creator of the alleged multiple hybrid. At first it was the simple case of the hybrid of two species. The fact that frequently only one of the two inhabited the area where the supposed hybrid was found, and that occasionally neither of them did, was no discouragement to the mind which had gone off on this tangent. Presently, and naturally, came the triple hybrid. Simple hybrids were too simple, and the botanists weren't. Followed this shortly the asserted hybrid of a species with another hybrid, then the multiple hybrid purporting to result from a cross between two species and a hybrid, or between ~~two~~ hybrids each resulting from mixture of two or three species. Finally, we have hybrids claimed to contain as many as five parents in various stages of prior virginity or hybridity. It's a beautiful mess, daily becoming messier. And not the least menacing of the characteristics of this latest frenzy is the fact that it can be extended indefinitely. There is absolutely no limit to the number of species and simple, triple, quadruple, or quintuple hybrids which may be predicated as the progenitors of a single helpless herb or shrub. And the characters, the habitats, and the ranges of the alleged parent species seem forgotten.

2/5

As Chicago was forced to create her "Secret Six" to relieve herself of the odium of racketeering, so taxonomy must awaken and clean her house of the grievous evils ^{has created} she now so complacently tolerates.

38

Let none suppose that good work in taxonomic botany is not being done. Most of it is good and much is excellent. But, as in Chicago, the honest and law-abiding permit their opposite to flourish and reap the rich rewards which should be reserved for the righteous. ~~Must~~ it be said of taxonomists, as of the ancient race, "You have taxed mint and anise and cummin and neglected the weightier matters of the law?"

74

A New Day and a Better Way

In our day there has been a stirring among the dry bones, and some have been clothed upon with living flesh. In a great university this reform was undertaken. The curriculum was rejuvenated, with marvelous results. Flunking was reduced magically to a minimum as students ~~went~~^{went} ~~and~~ afield. And a puzzled professor in another department reported his bewilderment to the Dean. "I have seen a miracle on this campus", quoth he. "And how", was the Dean's response. "Just this. I have seen a class in botany looking at a plant". At the same time delighted students and surprised instructors were saying: "This is the day I long have sought, and mourned because I found it not".

A heartening test was made on a group of clerical workers. A common little weed of the mint family was dropped into their laps at the lunch hour. Without help or equipment they soon discovered the square stem, opposite leaves, whorled flowers, lipped corolla and pungent plant odor. Told that these were earmarks of the Labiatae, they learned the apt meaning of the family name, and recalled useful members. A respect for taxonomic botany and a new interest in plants resulted.

106

Opportunity was given the writer to discourse on the genus Salix to a group of botanists, professional and amateur. The temptation to display accumulated knowledge of species and varieties was resisted. Instead, what willows are and what they do for humans was presented under the suggestive caption; "The Private Lives of the Willows."

52

SV
Stress was laid on their startling range in size and ecologic adaptation. Instances were given of their place in history and literature, and their exceedingly numerous, varied, and important uses in medicine, agriculture, recreation, chemistry, engineering, art, ~~and~~ fisheries, decoration, quackery, war, and witchery. The reasons why willows are considered 'difficult' were pointed out, the relative flowering and fruiting periods of different species discussed, and the three classes of foliage shoots on an individual plant illustrated. The feat of identifying several species from reindeer stomachs and duck crops was mentioned.

95
The treatment took. Interest was aroused, and questions asked. Things have been happening ever since. Engineers come to report measured heights, the clogging of drains and ditches, or the holding of banks. Teachers on vacation recall the varied foliar aspects and collect all they see. Others gather data on industrial or aboriginal uses. Mountain climbers search for a rare alpine species (and find it!). Desert rats explore far corners, with astonishing results. Botanists, young and old, male and female, professional and amateur, ransack the foregrounds and hinterlands, mountain and desert and swamp, for members of the clan. *in-State and out-State*

Among net results are the common finding of species thought rare, extended range for State species, addition of several out-State species to the State flora, and the unexpected discovery of species and varieties new to science. Truly these are rich dividends on one small investment in humanizing taxonomic botany.

University of California, Berkeley.

Sins of Omission.) —————>Taxonomic

Taxonomic botany has not failed to serve humanity, but often she has failed to make that service known. Humility may be praiseworthy but indifference not. There is a time to be silent and a time to cry aloud. ~~Most of the service which taxonomy has rendered~~ ^{much public} has come to public attention through the ^{published} achievement of one or another of her daughter divisions. In ^{permitting} allowing this to become true she has neglected ~~the public human~~ interest in part and her own interest perpetually. This is botanic tragedy.

Not only ^{have} the daughter divisions drawn away from their taxonomic mother, but each has been inclined to develop within itself such systematic studies as have seemed necessary to progress in that ^(field, special) field. Not ~~the~~ ^{taxonomic botanists} but taxonomic beginners in these special fields, ^{themselves,} the workers in the field of taxonomic botany proper, have ~~done~~ ^{ed} the describing and classifying of the ^{crop} plant material ^{from} comprising the crops of the field, pasture, orchard, garden, and forest, and the pest plants that infest these crops. This anomalous situation ^{study of} has not developed wholly accidentally. It seems due in part to some lingering distaste for such material, in part to remoteness from the chief sources of it, and in part to lack of appreciation of the ~~taxonomic~~ ^{essential} differences between ^{feral} wild and cultivated plants. Also the worker in the more economic phases of the botanic field ^{at} ~~has a pro-~~ ^{rebel} found distaste for having the nomenclatorial Old-Man-of-the-Sea fastened on his shoulders. Even so, the results of professional abstaining and of ~~amateur~~ ^{amateur} action have not always been happy, either.

Of course, not all of the taxonomic workers developed in the daughter groups have been wholly happy in their methods and results. Some of them have had inadequate training, and some have aped ~~the~~ too closely the taxonomists in the field of 'pure' botany. But in general their work has been good, and much of it has been virile and refreshing.

~~Let me suppose that splendid work is not being done by~~

It is a large and polymorphic genus, popularly reputed to be 'difficult' and everybody, including most systematic botanists, therefore shunned by collectors

Stress was laid on their startling range in size from inconspicuous and almost subterranean mats to gigantic forest monarchs, and their marvelous range in adaptation from tropic heat to arctic cold, and from below sealevel in hot and arid deserts to far above timber on snowy alpine summits.

and the variations in leaf size and shape on on the same shoot, and as between the fruiting, seasonal, and sprout shoots on the same plant, illustrated by series of sheets.

Sundry contribute references to the willows in living or dead literature on many subjects.

Add to pages ~~four~~ 6 and 7.

It was *Lamium amplexicaule* but that knowledge they were not allowed to know it.

When they had agreed on these essential facts they were told that by these characters they could recognize many of the common mints of the country. They likewise were warned that other related families had the lipped corolla but not the complete combination of characters. When they asked for the name of the plant they were told that it was called dead nettle, and departed in peaceful ignorance that it had a latin name.

They learned that it was the job of taxonomic botany to determine the sets of characters for all plant groups and to classify them into families, genera, and species thereby. The importance of a full knowledge of the wild relatives of cultivated plants was stressed, as an aid in combatting insects, fungi, and of hardy and disease resistant virous diseases, and weeds, and in breeding new varieties. ~~resistant to~~

A new respect for taxonomy was created, and it was demonstrated that a the burden of the scientific nomenclature for amateurs was quite unnecessary to a knowledge of ^{and} the plant, its relationships, and an admiration of its beauty, or structure, adaptability, usefulness, pestiferous persistence.

There has been recent discussion of why plant taxonomy is ill-supported. This paper attempts to summarize some of these reasons. They fall into two groups. ~~They fall into two groups.~~ First, Helpful things which taxonomists might have done but did not. Second, Harmful things which taxonomists have done, but need not do.

Things left undone. 1. In many fields of applied botany, as horticulture, floriculture, and agronomy it is increasingly necessary to study, describe, and classify the many varieties of cultivated crop plants, such as fruits, flowers, cereals, forages, fiber plants, etc. This work has been done, and mostly well done, by the specialists on these groups of crops, generally without previous training in systematic botany. So far as known, no professional taxonomist has ever helped or offered to help or shown interest in such valuable systematic work.

All
2. The world is taking to the out-of-doors. Never before have the biological sciences had such opportunity to create and encourage nature lovers. A body of informed and grateful nature lovers are in a position to influence attitudes and activities helpful to science, including legislations and appropriations. But taxonomists have not helped to train nature lovers but discouraged them instead. They have not served as leaders of the outings of nature lovers and helped to interpret to them the wonders and the beauty of the out-of-doors.

3. Taxonomists often seem disinclined to mix with scientists in other fields. By such aloofness, they fail to obtain two-fold benefits. They miss the broadening influence which comes from wider associations, interests, and knowledge. They fail to sell their own specialty to the leaders of the other fields of activity. Attendance at the meetings of botanical societies is a case in point. The Botanical Society of Washington, for example, is large but composed mostly of workers in applied science. The local taxonomists do not attend regularly and thereby tend to lose the real benefits just discussed.

Many wrong things done or permitted by taxonomists lay grievous burdens on other scientific workers and tend to discredit systematic botany among the other sciences.

1. There is no requirement for preparation or certification in taxonomy.
- 17 Any person, with any kind of training or none, may publish new ~~genuses~~, species, and varieties of plants and these must be reckoned with forever after, whether valid or worthless. And the burden of proof ^{always} is on the user, not the maker.

3. Taxonomy upholds priority, not stability. ^{of public} Effective wide-spread use requires stability, achieved only through conservation of long-used specific names. No other science deifies priority and requires that an idea must forever be accompanied by the name of the man who first announced it, Names are the servants of man, not man the slave of names.

4. Taxonomy is the only science that ^{encourages and openly} rewards ~~ignorance~~, selfishness, and fraud. ~~Ignorance, because it gives credit for naming, not knowing. Selfishness, because it insures permanent association of the maker's name with the item he creates. Fraud, because selfishness is willing to commit fraud to get the coveted recognition~~ Men have changed the names of thousands of plants which they never saw and would not know if they did see them. Three men in 10 years ran the published species of *Crataegus* from some 25 to 1289. A plant pathologist recently named 15 more from a single State. *Rubus* is being split in the same way. One species maker never compared a new species with those most nearly related to it, but always with those distantly related. Why?

2. Taxonomy rewards ignorance. Recognition and rewards are bestowed for naming novelties, not for knowing plants. Some have renamed hundreds and thousands of plants which they never saw and could not possibly recognize. No penalty attaches to a continuous output of shoddy work. The burden of proof is on the user, not the namer.

5. Basing novelties on limited material. Many new species are described from a single collection, often fragmentary and sometimes juvenile. Because ~~such~~ extreme differences attract attention, such a single collection usually will be an extreme rather than an average example of the variation. Yet the type specimen should be an average, not an extreme. A description based on juvenile material makes the species unrecognizable.

6. Basing distinctions on evanescent characters. Hairiness and epidermis color twigs and bud scales of vary on plants as they do on humans. They vary through the year on the same organ and on organs produced at different season of the year. They vary in sun and in shade and may disappear with dehiscence of epidermis in spring. Pruinose color (exudate) may come and go with weather changes, and epidermal hairiness and color may be changed in press drying.

7. Absurd Theories as Basis for Naming. One school has recognized eight categories (species, subspecies, variety, subvariety, form, subform, sub-subform, and sub-sub-subform) to which Latin names are applied. From two five of these different entities may be found on a single plant. Another school regards practically all Salices as hybrids and so names them. Not only simple dihybrids are recognized, but also trihybrids, quadrihybrids, and even quintihybrids. Every working geneticist knows the impossibility of recognizing such hybrids in living plants, let alone in dried fragments of a plant.

8. Inaccuracy of statements. One taxonomist stated that his species never had leaves whitened beneath and then cited many specimen which were white beneath. Another specialist agreed with his statement but himself annotated with that specific name some scores of specimens with glaucous leaves. Another keyed a lanceolate leafed species as "obovate" and a second, looking only at the key and not at the plants cited, described a new lance-leafed species. One systematist, in a 23-line paragraph, misspelled 4 proper names and made 8 errors of fact, an average ~~one~~ of one for each 2 lines. Yet all the names and facts were correctly given in the labels and paper in which he was discussing.

AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE
AND ASSOCIATED SOCIETIES

November 29, 1932.

Dr. Austin H. Clark,
Director, Press Service, A.A.A.S.,
Smithsonian Institution,
Washington, D. C.

Dear Dr. Clark:

In accordance with the notices to authors of papers for the Atlantic City meeting recently received from you, I am enclosing herewith two copies of the Press Service notices on blue sheets, two copies of a brief abstract of the paper, and one copy of an early and longer draft of the paper itself.

Since first being submitted, the paper has been abbreviated and returned to Dr. Norman M. Grier, Secretary of the Systematic Section of the Botanical Society of America. Unfortunately, extra copies of this draft were not made and therefore I am sending you one copy of the longer, original draft and asking Dr. Gundorsen or Dr. Grier to return the ribbon copy of the original draft. I trust this original edition will do as well for press purposes taken together with the abstract as would the shorter final draft of the paper.

Regretting that I will not be able to attend the meeting, and with personal regards, I am

Very sincerely yours,

Carleton R. Ball
Research Associate

CRB:CSB

American Association for the Advancement of Science And Associated Societies

JOHN J. ABEL - - - - - PRESIDENT
CHARLES F. ROOS - - - - - PERMANENT SECRETARY

November
Nineteen Thirty-two

JOHN L. WIRT - - - - - TREASURER
BURTON E. LIVINGSTON - - - - - GENERAL SECRETARY

WINTER MEETING, ATLANTIC CITY, N. J.
DECEMBER 27 TO 31, 1932

SUMMER MEETING, CHICAGO, ILL.
JUNE 19 TO 30, 1933

PRESS SERVICE

Foreword

OFFICE OF THE PERMANENT SECRETARY
SMITHSONIAN INSTITUTION BUILDING
WASHINGTON, D. C.

The members of the Association are to be commended for the cordial spirit of helpful cooperation which they are showing toward the Press Service, and which is increasingly evident each year.

The director of the Press Service can no longer refrain from expressing his sincere appreciation of this attitude on the part of the members, of which the Press of the country is similarly appreciative.

The success of any press service is dependent not so much on the efforts of the nominal head as it is on the efforts of the individuals who provide the material in which the Press is interested.

The members of the Association are to be congratulated on the marked success of their efforts to assist the Press, for which they deserve full credit.

Special Notice
to Authors of Papers and Addresses
to be given at the Atlantic City Meeting

There will be furnished to the daily press and to the various news organizations that will be represented at the meeting releases regarding the meeting in general and the papers and addresses given at the sessions of the Association and of the affiliated societies.

Please prepare as soon as possible three copies of the manuscript of each paper you are to present at the meeting, and also three copies of a brief abstract of each paper, and mail these as follows:-

- (A) Two copies of each complete paper and two copies of the corresponding abstract to Mr. Austin H. Clark, Director of Press Service, A.A.A.S., Smithsonian Institution Building, Washington, D. C.
- (B) One copy of the paper and of the abstract to the secretary of the section or society before which the paper will be presented.

An addressed and stamped envelope is furnished herewith, for mailing the manuscripts and abstracts to me. Please insert in the envelope, together with your manuscripts, the blue sheets sent herewith, filled in as requested below the single-ruled line.

If you have already sent your manuscripts please inform me of this fact by means of an annotation on the blue sheets, in order that the receipt of your manuscripts may be properly recorded.

One of the most important features of our meetings is the dissemination of news regarding the scientific activities of American men and women of science and I wish especially to request you to do your part promptly, to the end that our news service at Atlantic City may be efficient, comprehensive, and satisfactory to everyone concerned.

AUSTIN H. CLARK,
Director of Press Service

December 9, 1932.

Dr. Austin H. Clark,
Director, Press Service, A.A.A.S.,
Smithsonian Institution,
Washington, D. C.

Dear Dr. Clark:

In further reference to my letter of November 29th, I would say that the Systematic Section has felt that the paper I submitted to them for their program should be made shorter and amended. This has been done along the lines suggested by Dr. Gundersen, and the new draft sent to him today. I enclose two copies for any use you desire to make of them.

Very sincerely yours,

Digitized by Hunt Institute for Botanical Documentation

Carleton R. Ball
Research Associate

Wagner College
Staten Island, New York

Grier, Norman M

DEPARTMENT OF BIOLOGICAL SCIENCES
NORMAN MACD. GRIER, PH. D.

Oct. 23. 1932.

My dear Dr. Ball:

We need a few "brief additional voters."
for its program of its Systematics Section of the Botanical Society
at Atlantic City next December. Would you care to give me
say 10-15 minutes in length, and if so, would you care to send
a brief outline of it before Nov. 3. Topics relating to its general
subject "Outline Botany" would be especially welcome.

Sincerely yours,
G. E. Grier

Dr. Carlton R. Ball.

1-5- East of Wisconsin,
Washington - D.C.

November 5, 1932.

Dr. Norman M. Grier,
Dept. Biol. Sciences,
Bagner College,
Staten Island, N. Y.

Dear Dr. Grier;

Your letter of October 23 has been forwarded from the U. S.
Dept. of Agriculture in Washington.

I had had no thought of a contribution to the program of the
Systematic Section, and I have no systematic paper to offer now.
I have blocked out and written in rough draft, however, a brief paper
which I have entitled: "Botany: What and Whither?". I will mail a
copy to you early next week, probably on Monday. You can then judge
if you wish to use it for your program.

The paper discusses the trend in the splitting of botany into
successive component parts, the reasons for it, some of the sins of omis-
sion and of commission on the part of systematic botany, and then
presents the humanizing of the subject as it is working out in re-
cent years. I have tried to pep it so that it will be readable,
at least, with the hope that it may be published. ~~I shall not be able~~

I shall not be able to attend the meetings, havinf just returned
from the East and having neither time nor money for a second trip this
year. Perhaps you do not accept papers for reading by the Secretary,
or some other, when the author is not to be present. I do not know.
But I am sending it anyway.

Cordially yours,

Carleton R. Ball
Research Associate

P.S? You may be interested to know that I am just completing
a paper which will recognize some new species of *Salix* from this State, a
and some new varieties from here and elsewhere, as well as some new
combinations resulting from a better knowledge of some poorly published
material of some years ago.

B2

1932

BOTANICAL SOCIETY OF AMERICA

Members who wish to present papers at the meeting in Atlantic City, N. J., December 28-30, 1932, should use this form. It may also be used by non-members who are to be introduced by a member. Additional copies may be had from the Secretary.

All applications for a place on the program must be submitted to the respective secretaries, reaching them not later than November 3; in the case of the Physiological Section, they must reach the secretary not later than October 25.

By instruction of the Council, the Secretaries will adhere strictly to the ruling not to admit late applications, or titles unaccompanied by abstracts.

Mail this form, with the abstract, to the Secretary of the section in which the title naturally falls.

Author Dr. Carleton R. Ball
Institution and Address University of California, Bureau of Public Administration.
Title Research Associate
Taxonomic Botany: What and Whither?

Apparatus needed (microscope, lantern, etc.) None

Time required 13 - 14 minutes

To be presented
before

General Section, Dr. A. S. Foster, Secretary.
University of Oklahoma, Norman, Okla.

Physiological Section, Dr. J. M. Arthur, Secretary.
Boyce Thompson Institute for Plant Research,
Yonkers, N. Y.

☒ Systematic Section, Dr. N. M. Grier, Secretary.
Wagner College, Staten Island, N. Y.

Joint Session with Ecological Society of America,
Dr. Raymond Kienholz, Secretary, Connecticut
Agricultural Experiment Station, New Haven, Conn.

If not a member of the Society, the author will be introduced by

If not read by the author, the paper will be presented by
Dr. Gunderson or Dr. Grier.

The paper ~~will be~~ will not be presented by the author in person.

Sent to Dr. Gunderson, Nov. 29, for mailing to Dr. Trelease, if paper accepted.

November 11, 193²₄.

Dr. Norman M. Grier, Dept. of Biological Sciences,
Dept. Biological Sciences,
Wagner College, Staten Island, N.Y.

Dear Dr. Grier:

In further reference to my letter of November 5, I am sending herein the paper to which I referred. It is longer than I had thought, but could be shortened, if otherwise desired, by omitting pages 5, 6, and 7.

Quite probably you will not wish it, after reading it, and that because of other reasons than length. Before burning it, however, please read pages 8 to 11.

Trusting that you have a most profitable meeting of the section, as free as possible from annoyance, and filled with inspirations,

I am, - Most Cordially,

Carleton R. Ball
Research Associate

Wagner College
Staten Island, New York

DEPARTMENT OF BIOLOGICAL SCIENCES
NORMAN MACD. GRIER, PH. D.

Jan. 7. 1933.

My dear Dr. Ball:

I thought you would like to learn something about the effect of your paper which read at Atlantic City, when I was Secretary of the Systematics Section.

At the close of the first session, I evoked some reactions especially from Dr. Hitchcock when I remarked that the Linnaean species was not stable, that the generic species was a large concept, that it was logical to split species as the descent of one could succeed as it is in the descent, which arose. Dr. Sundersen told Dr. Hitchcock that he split species in the genus, and lumped them in other groups.

The rest of the program went off pretty well with an average attendance of 35. At Dr. Sundersen's suggestion I incorporated in your paper (first draft) some of the comments you had made in its first & second edition, because Gleason believed it could be read as a "burlesque". As things actually worked out, I presented the paper in what was afterwards termed a dramatic manner which caught, or seemed to catch, the minds of the young botanists present. The old timers arose, really affected, and spoke defensively and apologetically as to the situation, and their part in it. Gleason and Sundersen fortunately overruled.

Other developments immediately preceding my reading of your paper are difficult to interpret, for there had no alteration of them yet. The night before, Dr. Sundersen asked Dr. Gleason and Hitchcock, the majority committee, whether they wished me to read open or secretly. Indeed, Gleason had complained me that evening. Of course, Dr. Sundersen had asked whether I wished to read open. Previously, he had repeatedly wanted me to do so. Anyway, these gentlemen were in favor of it then, but next day, they nominated somebody else. The other members of the committee was Dr. Sundersen. I did not object to the development

because the secretary's job is to know it means time and money.
I did not like, however, to have my name bandied around,
needlessly, and I think that under the circumstances you will
agree with me. So far as the section is concerned, it was a
con of mine and I am hoping to "learn the ropes" once more.

If you ever have occasion to comment upon the matter
please do not mention my name for obvious reasons. Dr. Seward
is a splendid fellow, and should not be involved in any embarrassment.
I hope I shall have the pleasure of meeting you some time.

Sincerely yours
G. E. Sues

Dr. Corliss R. Ball
University of California
Berkeley, California

THE BROOKLYN INSTITUTE OF ARTS AND SCIENCES
BROOKLYN BOTANIC GARDEN
1000 WASHINGTON AVENUE
BROOKLYN, N. Y.

ADDRESS FOR MAIL
BROOKLYN BOTANIC GARDEN
1000 WASHINGTON AVE.
BROOKLYN, N. Y.

TELEPHONE: PROSPECT 9-6173

November 21, 1932.

Dr. Carleton R. Ball,
Department of Botany,
University of California,
Berkeley, Calif.

Dear Dr. Ball:

Will you not consider rewriting your paper "Botany, What and Whither", abbreviating it to about one half, and addressing it more especially to the systematic botanists? I am with you, but feel that in its present form it will not "carry". Pages 4-7 (modified) are the main parts suitable for systematists, as I see it. But you decide.

Hoping to hear from you very soon, as the time is short, I am,

Yours very truly,

Alfred Gundersen

Chairman, Systematic Section
for 1932

AG/MP

(over)

Nov. 29., 1932.

Dr. Alfred Gundersen, Chairman,
Systematic Section, Bot. Soc. of America,
Brooklyn Botanic Garden,
1000 Washington Ave., Brooklyn, N.Y.

Dear Dr. Gundersen:

Your courteous letter of November 21 is appreciated. Time has lacked but I have shortened the paper considerably. I could not change the style appreciably and retain any punch. If it still is too long, or not acceptable otherwise, you are at complete liberty, as before, to ditch it out of hand.

✓ I inclose the ribbon copy of the revised draft, together with various other documents. If the paper is accepted will you please dispose of them all as follows?:

Send the paper (I presume), and the enclosed abstract to the Secretary, (A)
Dr. Grier;

Mail the enclosed notice (B) to the Secretary of the Bot. Soc. America,
Dr. Sam F. Trelease, Columbia University, New York;

send Mail, or have Dr. Grier mail, if he has it, the copy of the paper which I originally him to Dr. Austin H. Clark, Director of Press Service, Smithsonian Institution, Washington, D. C. I neglected to have extra copies prepared for him, but think the longer draft will do as well as the shorter for his purpose. I am sending him two copies of ~~the~~ abstract direct, telling him that, if accepted, a copy of the original draft will come to him from you or Dr. Grier.

Thanking you again, and regretting the delays, I am

Most cordially,

Carleton R. Ball,
Research Associate

RECEIVED NOV 30 1932
BROOKLYN BOTANIC GARDEN

THE BROOKLYN INSTITUTE OF ARTS AND SCIENCES
BROOKLYN BOTANIC GARDEN
1000 WASHINGTON AVENUE
BROOKLYN, N. Y.
TELEPHONE: PROSPECT 9-6173

ADDRESS FOR MAIL
BROOKLYN BOTANIC GARDEN
1000 WASHINGTON AVE.
BROOKLYN, N. Y.

December 2, 1932.

Dr. Carleton R. Ball,
Bureau of Public Administration,
University of California,
Berkeley, Calif.

Dear Dr. Ball:

The program was sent to the printer some time ago with your title included.

I fear you will not forgive me for having read your paper with a red pencil in hand. If you were delivering the paper you could of course say what you wanted. But it has to be read by Dr. Grier as secretary.

References to racketeers, etc., are hardly suitable before a group of specialists. You do not oppose some study of dead plants, as plants cannot be studied in quantity without pressed specimens.

The suggestions are made "off-hand" and are not to be taken too seriously. I hope I am not exhausting your patience, but that you will send, within a few days after receiving this, one more revised edition.

Under separate cover I take the liberty of mailing you a compilation of "dead names". The names as such do not interest me, but I wanted to call attention to the magnitude of the subject, as well as to the present unsatisfactory state of generic nomenclature.

In sympathy with the general idea of your subject, I await your reply and remain,

Yours very truly,

Alfred Gundersen

(over)

AG/MP

December 9, 1932.

Dr. Alfred Gundersen,
Brooklyn Botanic Garden,
1000 Washington Avenue,
Brooklyn, New York.

Dear Dr. Gundersen:

Your letter of December 2nd was duly received together with the emended copy of the manuscript. In accordance with your request I have had the manuscript retyped in almost exactly the form and content you have suggested. I have done this only because of the very courteous interest you have shown and the time and trouble you have taken in the matter.

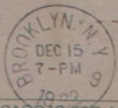
Personally I feel that in its present state the paper is practically without value. It is as dry and dead as some phases of the subject discussed. All the life and discussion which might have arrested attention and perhaps induced thought are gone. If it has value and effect now it probably is only as a sleeping potion, and that was not exactly the original intention. All that it now says has been often and better said before but without any visible effect.

The compilation of "dead names" which you mentioned in your letter has not yet arrived but I will be interested in it if and when it comes. Perhaps it has gone to the "dead" letter office.

Wishing you a pleasant and profitable session at Atlantic City, with no Jersey mosquitoes nor taxonomic gadflies, I am

Most cordially yours,

Carleton R. Ball
Research Associate



THIS SIDE OF CARD IS FOR ADDRESS

Dr. Carleton R. Ball,
Department of Botany,
University of California,
Berkeley, Calif.

BROOKLYN BOTANIC GARDEN
1000 WASHINGTON AVENUE, BROOKLYN, N. Y., U. S. A.

December 15, 1932.

Dear Dr. Ball:

Thank you for the revised article.
I will write you after I meet Dr. Grier
next week.

Sincerely,

Alfred Gundersen

*Dr. Svenson says "Shades of himalaicus" etc.,
should be included by all means.*